





FUSION X25™

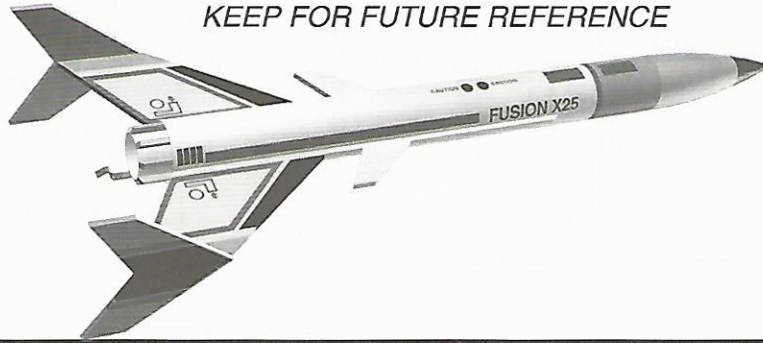
#3205

FLYING MODEL ROCKET KIT INSTRUCTIONS

KEEP FOR FUTURE REFERENCE

Estes-Cox Corp.
1295 H Street, PO Box 227
Penrose, CO 81240-0227

Printed in Guangdong, China

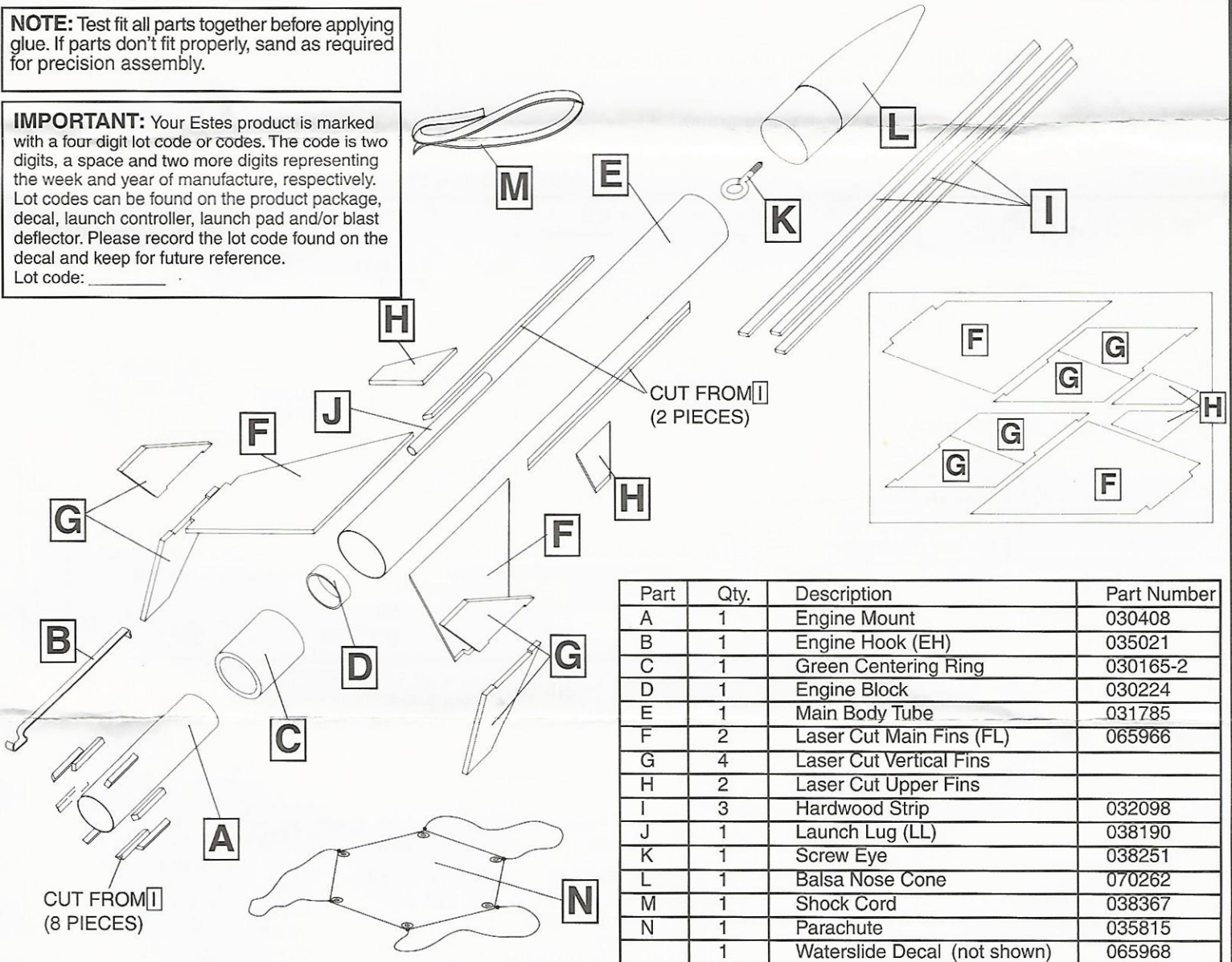


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rockets
.com

ASSEMBLY TIP: Read all instructions before beginning work on your model. Make sure you have all parts and supplies.

NOTE: Test fit all parts together before applying glue. If parts don't fit properly, sand as required for precision assembly.

IMPORTANT: Your Estes product is marked with a four digit lot code or codes. The code is two digits, a space and two more digits representing the week and year of manufacture, respectively. Lot codes can be found on the product package, decal, launch controller, launch pad and/or blast deflector. Please record the lot code found on the decal and keep for future reference.
Lot code: _____



Part	Qty.	Description	Part Number
A	1	Engine Mount	030408
B	1	Engine Hook (EH)	035021
C	1	Green Centering Ring	030165-2
D	1	Engine Block	030224
E	1	Main Body Tube	031785
F	2	Laser Cut Main Fins (FL)	065966
G	4	Laser Cut Vertical Fins	
H	2	Laser Cut Upper Fins	
I	3	Hardwood Strip	032098
J	1	Launch Lug (LL)	038190
K	1	Screw Eye	038251
L	1	Balsa Nose Cone	070262
M	1	Shock Cord	038367
N	1	Parachute	035815
	1	Waterslide Decal (not shown)	065968

SUPPLIES In addition to the parts included in the kit you will also need:

- SCISSORS
- PENCIL
- RULER
- FINE SAND PAPER (#320-#400 GRIT)
- CARPENTER'S GLUE
- MODELING KNIFE
- MASKING TAPE
- SPRAY PRIMER (WHITE)
- SPRAY PAINT CLEAR COAT (OPTIONAL)
- SPRAY PAINT GLOSS SILVER
- SPRAY PAINT GLOSS BLACK
- SPRAY PAINT GLOSS WHITE
- SPRAY PAINT GLOSS GRAY

MARKING GUIDES AND SHOCK CORD MOUNT

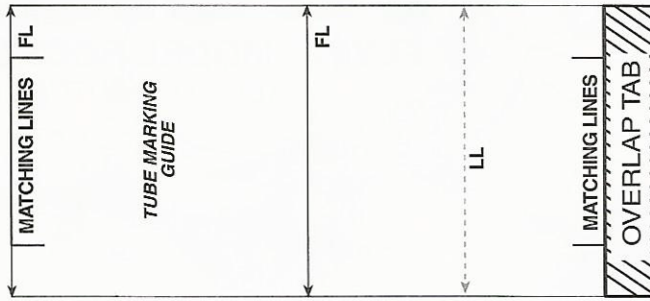
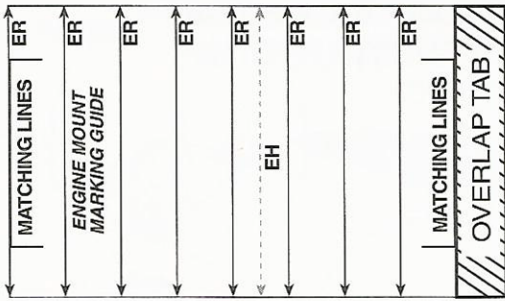
(Make a copy if you want to keep instructions.)



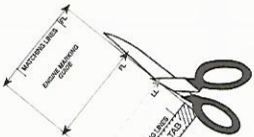
SECTION 3

SECTION 2

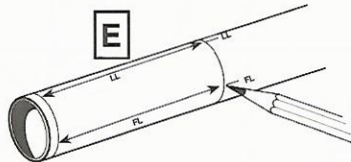
SECTION 1



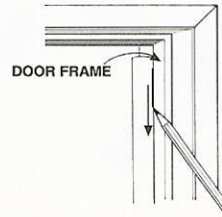
TUBE MARKING



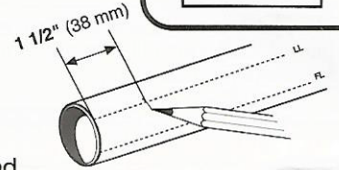
1. Cut tube marking guide from instructions.



2. Tape guide around [E]. Mark fin lines FL and launch lug line LL.

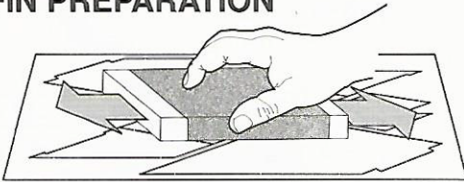


3. Remove guide. Connect and extend all lines entire length of [E]. Use door frame as a straight edge.

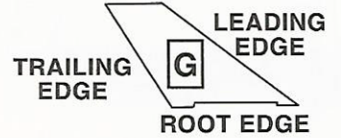
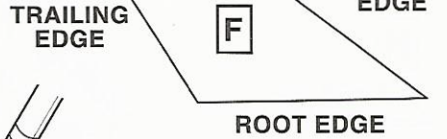


4. Measure and mark as shown on LL.

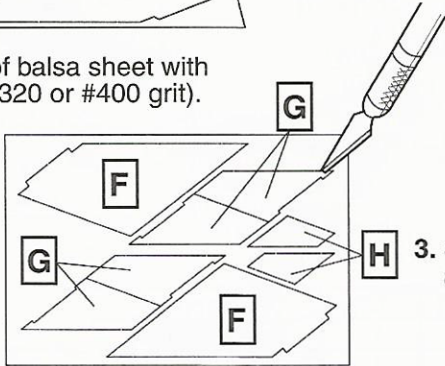
FIN PREPARATION



1. Sand both sides of balsa sheet with fine sandpaper (#320 or #400 grit).

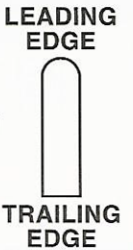


2. Cut all pieces from sheet.

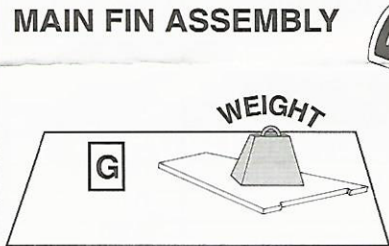


3. Stack like parts together and sand edges smooth.

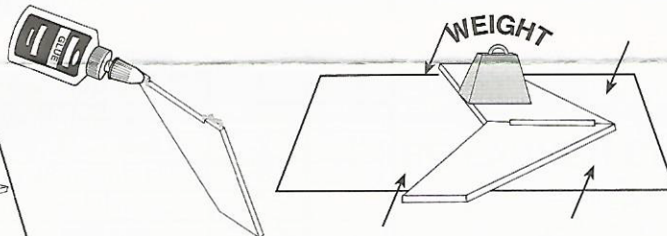
4. Round all leading edges. DO NOT sand root edges round.



MAIN FIN ASSEMBLY

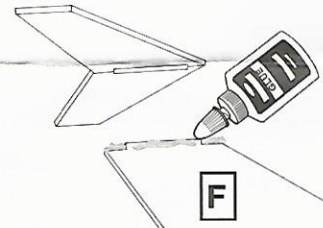


1. Place protective cover on flat surface. Lay one [G] on protective cover. Hold in place with weight.



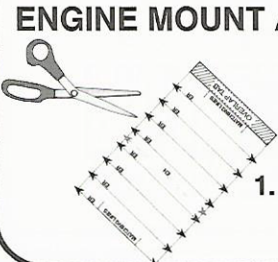
2. Apply glue to edge of other [G]. Attach to [G]. Make sure no glue gets into slot. Let dry.

3. Repeat for other [G]. Let dry.

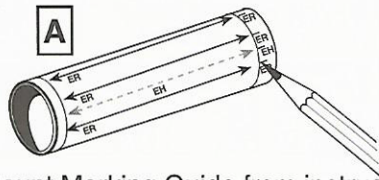


4. Apply glue to both sides of tab and edges of [F]. Insert into slot of assembled [G]. Make sure [G] is 90 degrees to [F]. Let dry. Repeat for other [F]. Let dry.

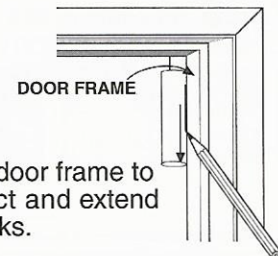
ENGINE MOUNT ASSEMBLY



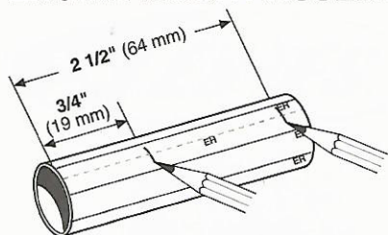
1. Cut Engine Mount Marking Guide from instructions. Tape around [A]. Mark exhaust ribs ER and engine hook EH. Remove guide.



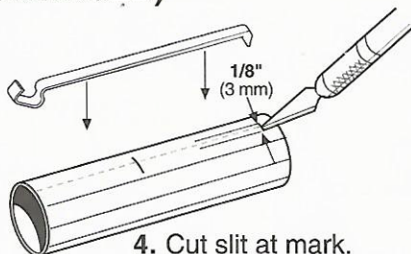
2. Use a door frame to connect and extend all marks.



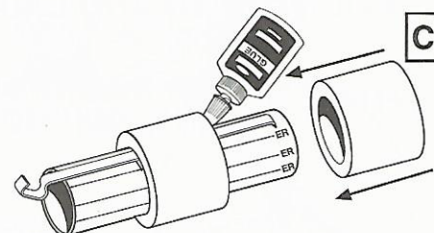
ENGINE MOUNT ASSEMBLY (CONTINUED)



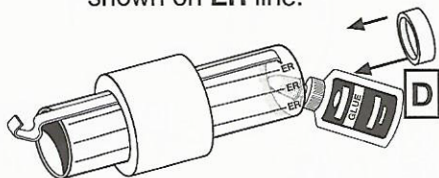
3. Measure and mark as shown on EH line.



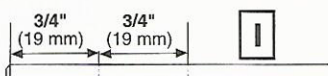
4. Cut slit at mark. Insert [B] in slit.



5. Slide [C] to mark. Apply ring of glue to forward side of [C]. Wipe excess glue.



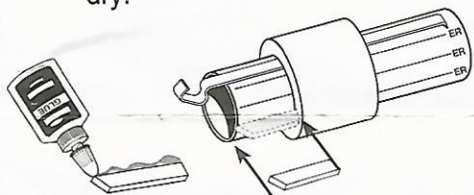
6. Apply ring of glue to inside end of [A]. Insert [D] until it stops. Let dry.



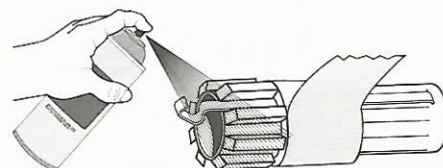
7. Measure and mark one [I] into 8 pieces 3/4" (19 mm) long. Cut pieces to length.



8. Using a modeling knife or sand paper, bevel one end of each cut piece to a 45 degree angle.

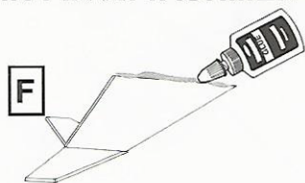


9. Apply glue to long edge of one cut piece of [I]. Position piece centered over ER with square end next to [C]. Repeat for remaining pieces. Let dry.

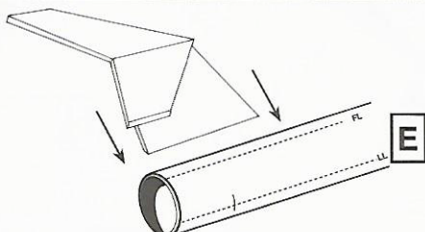


10. Apply masking tape around green ring. Spray paint exhaust ribs and end of engine mount tube military gray. Let dry. Remove tape, but **DO NOT** glue engine mount tube in place at this time.

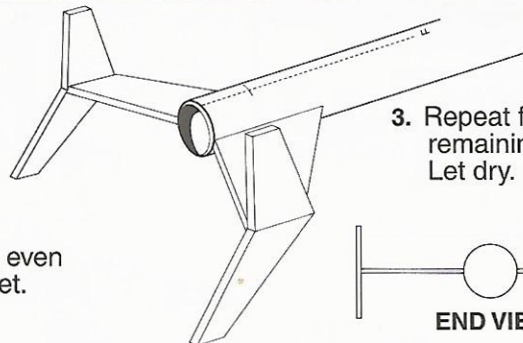
MAIN FIN ATTACHMENT



1. Apply glue to root edge of [F]. Let dry 1 minute. Apply 2nd layer of glue.



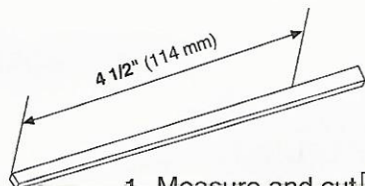
2. Position [F] centered on FL even with end of [E]. Hold until set. Let dry.



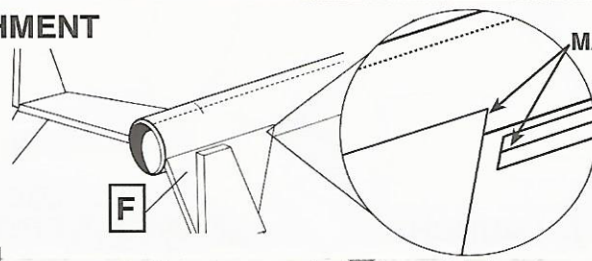
3. Repeat for remaining [F]. Let dry.

END VIEW

HARDWOOD STRIP ATTACHMENT

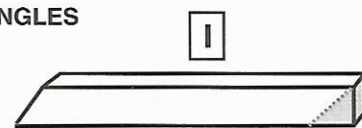


1. Measure and cut [I] as shown.

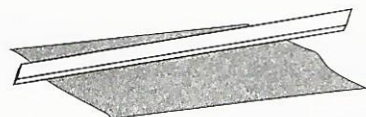


2. Bevel one end of [I] to match leading edge of [F].

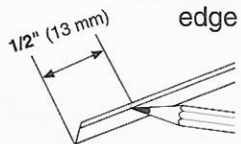
MATCH ANGLES



3. Bevel opposite end of [I] 45 degrees. Repeat for other [I].

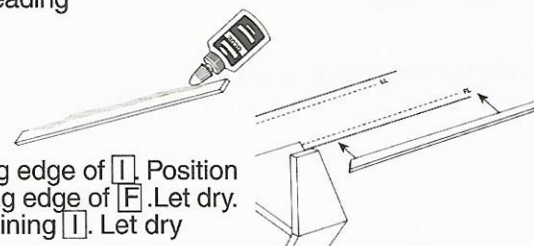


4. Sand all sides of [I] smooth.

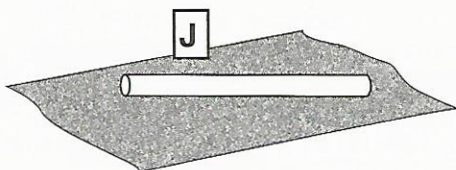


5. Measure and mark both [I] for [H] location.

6. Apply glue to long edge of [I]. Position over FL at leading edge of [F]. Let dry. Repeat for remaining [I]. Let dry.



LAUNCH LUG ATTACHMENT

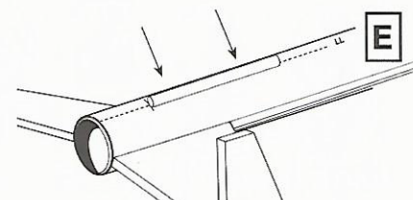


1. Sand [J] with fine sandpaper.

NOTE: Make sure [J] is centered on LL.



2. Apply glue to [J].

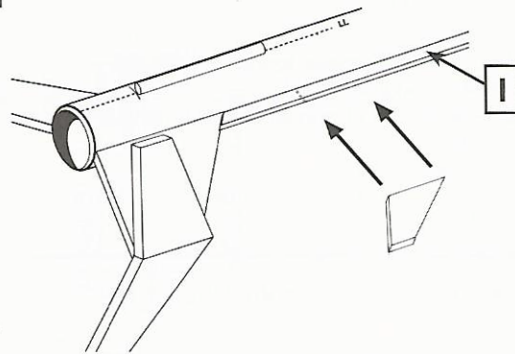


3. Position [J] centered on LL line and forward of 1 1/2" (38 mm) mark. Let dry.

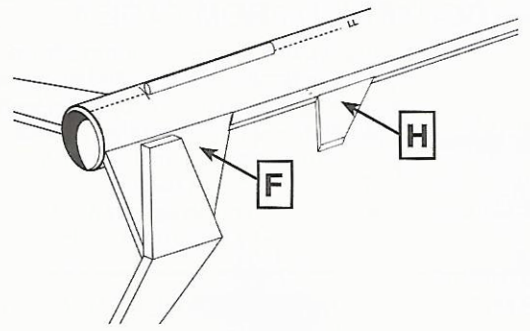
UPPER FIN ATTACHMENT



1. Apply glue to root edge of **H**.

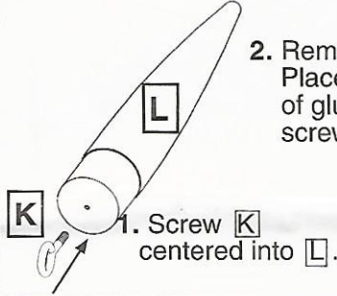


2. Position **H** forward of 1/2" (13 mm) mark centered on **I**.



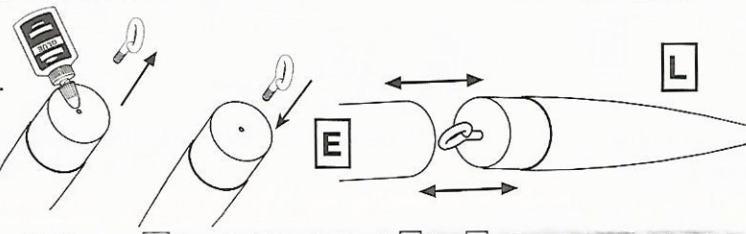
3. Check that **H** and **F** are parallel. Let dry. Repeat for remaining **H**. Let dry.

NOSE CONE ASSEMBLY



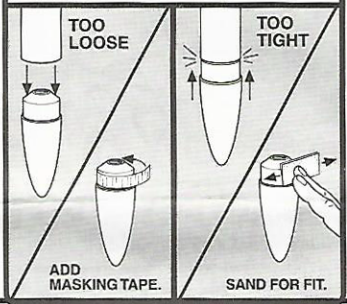
1. Screw **K** centered into **L**.

2. Remove **K**. Place drop of glue in screw hole.

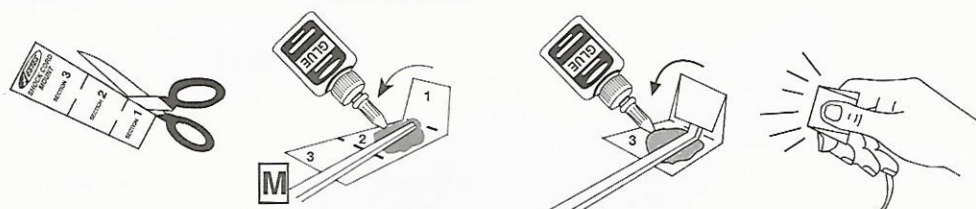


3. Screw **K** in place. Let dry.
4. Check fit of **L** in **E**. Sand as required for easy insertion. **DO NOT GLUE IN PLACE.** Remove **L** for painting.

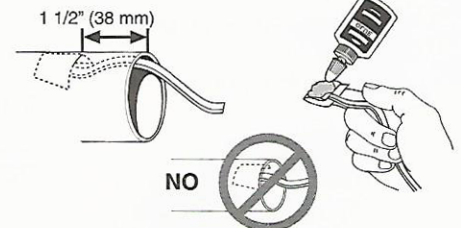
HELPFUL HINT: IF NOSE CONE FIT IS...



SHOCK CORD INSTALLATION



1. Cut shock cord mount from instructions.
2. Apply glue to mount. Place **M** on Section 2. Fold forward.
3. Apply glue and fold forward.
4. Squeeze tight!



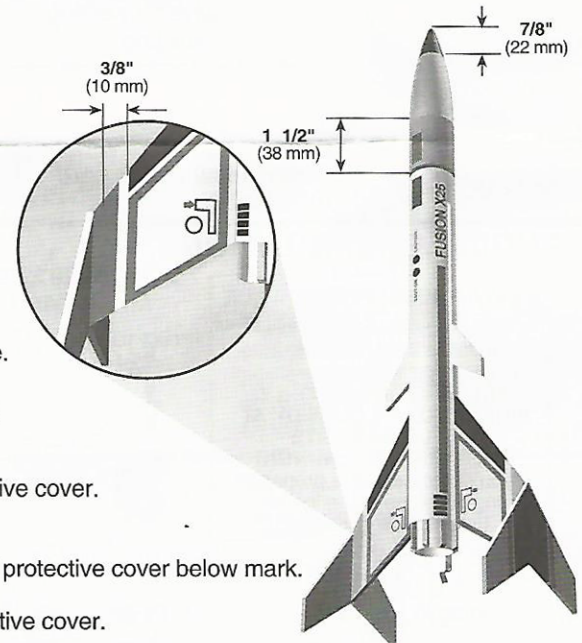
5. Apply glue to shock cord mount and insert in body tube. Hold until glue sets. Let dry.

ROCKET FINISHING

NOTE: We have found Testors spray primers (Testors #2948 White Primer), Testors One Coat Lacquer spray paints, Testors Model Master spray paints and Testors Gloss Lacquer (#1961) to be excellent for providing a long lasting and durable finish on your rocket. Always be sure to spray your models outside or in a well ventilated area.

STEPS FOR A QUALITY FINISH:

1. Insert shock cord into body tube and hold in place with paper.
2. Lightly sand body tube, fins and nose cone with fine sandpaper.
3. Apply glue fillets to fin and launch lug joints.
 - a. Allow glue to dry overnight.
4. Use a stick inserted into the engine mount end of the rocket for painting.
5. Hold the nose cone by the screw eye for painting.
6. Tape off shoulder of nose cone with masking tape.
7. Apply 2 light coats of white primer to rocket body and nose cone, separately.
 - a. Allow to dry and lightly sand with fine sandpaper between coats.
8. Apply gloss white to rocket body.
 - a. Let paint dry overnight (24 hours is best).
9. Measure and mark both sides of each main fin, 3/8" (10 mm) in from outside edge. Apply masking tape to both sides of each fin toward body tube.
10. Measure and mark 1 1/2" (38 mm) from forward end of body tube. Apply masking tape and protective cover below mark.
11. Spray exposed fins and forward end of body tube military gray.
 - a. Let pain dry overnight (24 hours is best). Remove masking tape and protective cover.
12. Spray nose cone bright silver.
 - a. Let paint dry overnight (24 hours is best).
13. Measure and mark 7/8" (22 mm) from end of nose cone. Apply masking tape and protective cover below mark.
14. Spray nose cone tip gloss black.
 - a. Let paint dry overnight (24 hours is best). Remove masking tape and protective cover.

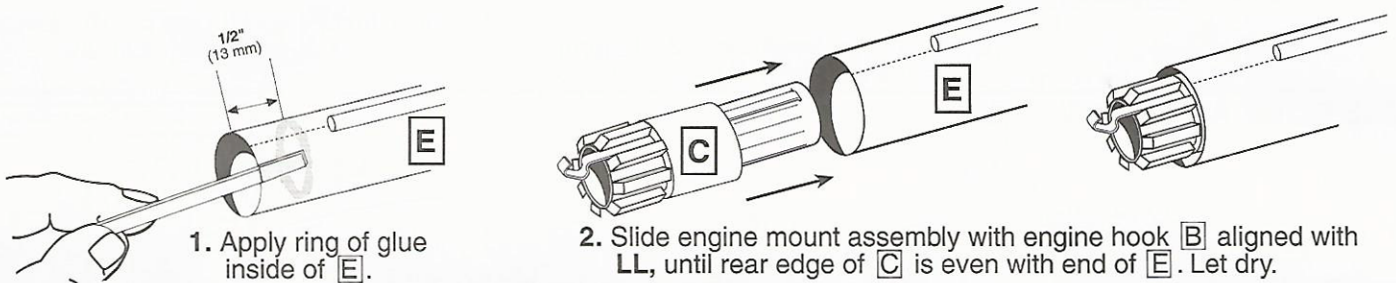


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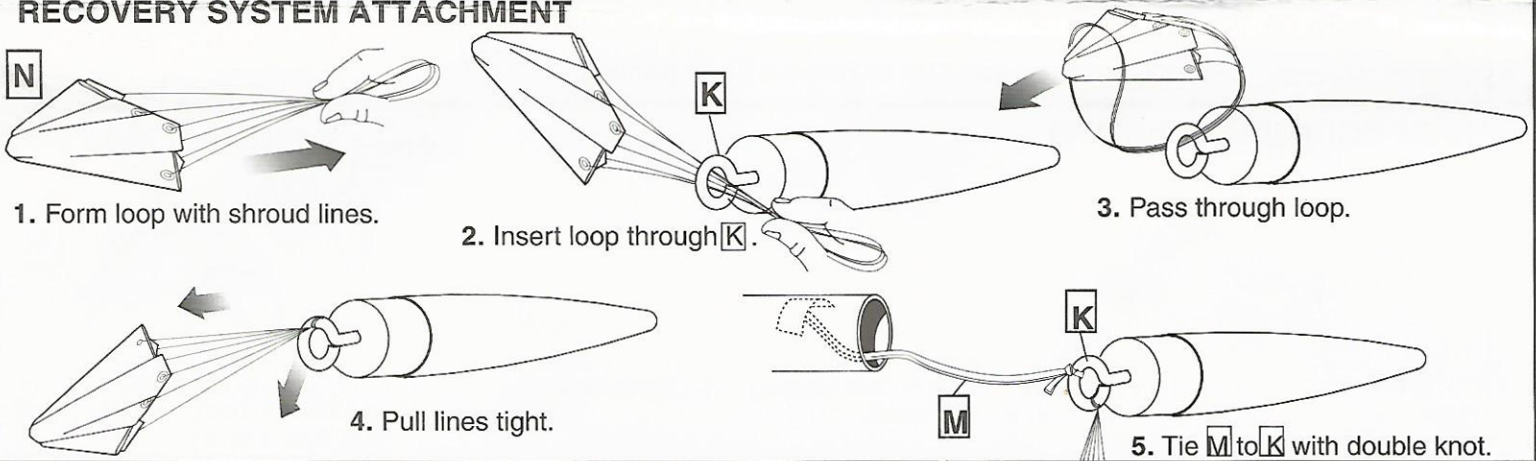
CONTINUED FROM PAGE 4

15. Apply waterslide decals where shown.
 - a. Cut decals to be applied from decal sheet, trimming close to the decal edge.
 - b. Place decal in bowl of warm water until decal begins to curl.
 - c. Remove decal, position in place and slide decal off of backing material and onto the model as close to final position as possible.
 - d. Gently blot out excess water with a clean paper towel.
 - e. Allow decals to set overnight before applying protective clear coat. This will provide added protection and shine to your FUSION X25™ rocket!

ENGINE MOUNT INSTALLATION NOTE: Fins removed from drawing for clarity.



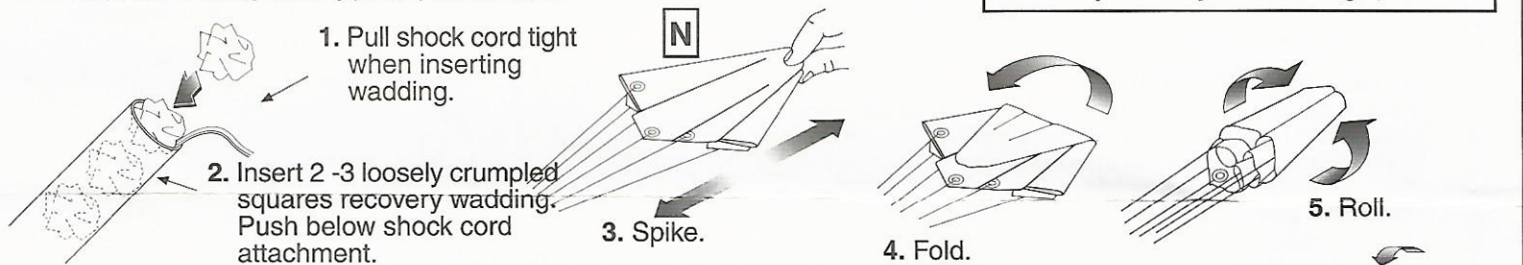
RECOVERY SYSTEM ATTACHMENT



FLIGHT RECOVERY PREPARATION

NOTE: Only Estes Recovery Wadding (302274) recommended.

NOTE: Recovery wadding and parachute must slide easily into body tube. If too tight, redo.

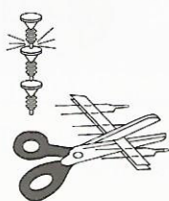


ENGINE PREPARATION

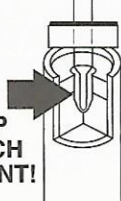
⚠ WARNING: FLAMMABLE

To avoid serious injury, read instructions & NAR Safety Code included with engines.
PREPARE ENGINE ONLY WHEN YOU ARE OUTSIDE AT THE LAUNCH SITE PREPARING TO LAUNCH!
 If you do not use your prepared engine, remove the igniter before storing engine.

1. Separate igniter and igniter plug.



2. Insert igniter.



IGNITER TIP MUST TOUCH PROPELLANT!

3. Insert plug.



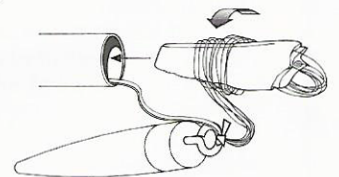
4. Push down.



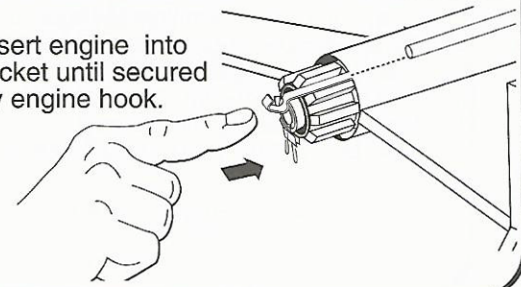
5. Gently bend igniters to form leads as shown.



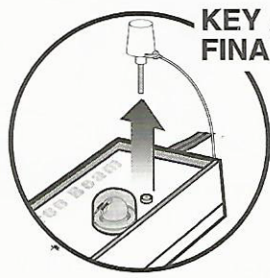
6. Wrap lines loosely around parachute. Insert parachute, shock cord and nose cone into body tube.



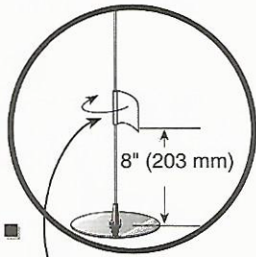
6. Insert engine into rocket until secured by engine hook.



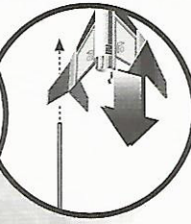
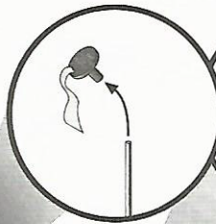
COUNTDOWN AND LAUNCH



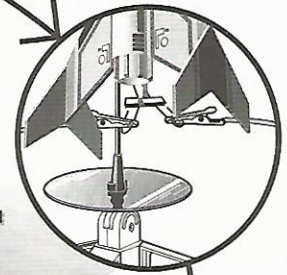
1...



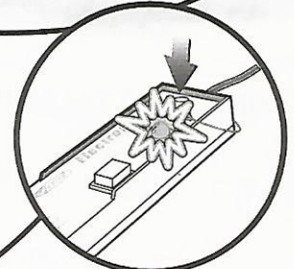
2...



3...

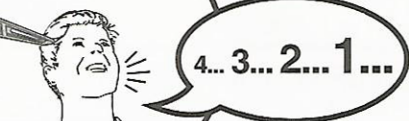


4...

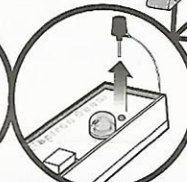
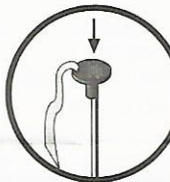


INSERT KEY. PUSH DOWN HARD. BULB WILL LIGHT.

5...



WHILE HOLDING KEY DOWN FIRMLY, PRESS LAUNCH BUTTON UNTIL LIFTOFF!



LAUNCH BUTTON

Estes Launch Supplies Needed:

(Sold Separately)

- Porta Pad® II Launch Pad
- Electron Beam® Launch Controller
- Recovery Wadding (302274)
- Igniters (with engines)
- Igniter Plugs (with engines)
- Recommended Estes Engines:
 - A8-3, B4-4 (First Flight),
 - B6-4, C6-5

PRECAUTIONS



NAR Safety Code



NO DRY GRASS OR WEEDS



PRE-LAUNCH CHECK

For safety, never launch a damaged rocket. Check the rocket's body, nose cone and fins. Also, check the engine mount, recovery system and launch lug. Repair any damage before launching the rocket.

FLYING YOUR ROCKET

Choose a large field (500 ft. [152 m] square) free of dry weeds and brown grass. The larger the launch area, the better your chance of recovering your rocket. Football fields and playgrounds are great. Launch only with little or no wind and good visibility.

Always follow the enclosed National Association of Rocketry (NAR) SAFETY CODE.

MISFIRES

TAKE THE KEY OUT OF THE CONTROLLER. WAIT ONE MINUTE BEFORE GOING NEAR THE ROCKET! Disconnect the igniter clips and remove the engine. Take the plug and igniter out of the engine. If the igniter has burned, it worked but did not ignite the engine because it was not touching the propellant inside the engine. Put a new igniter all the way inside the engine without bending it. Push the plug in place. Repeat the steps under Countdown and Launch.



0 in

1

2

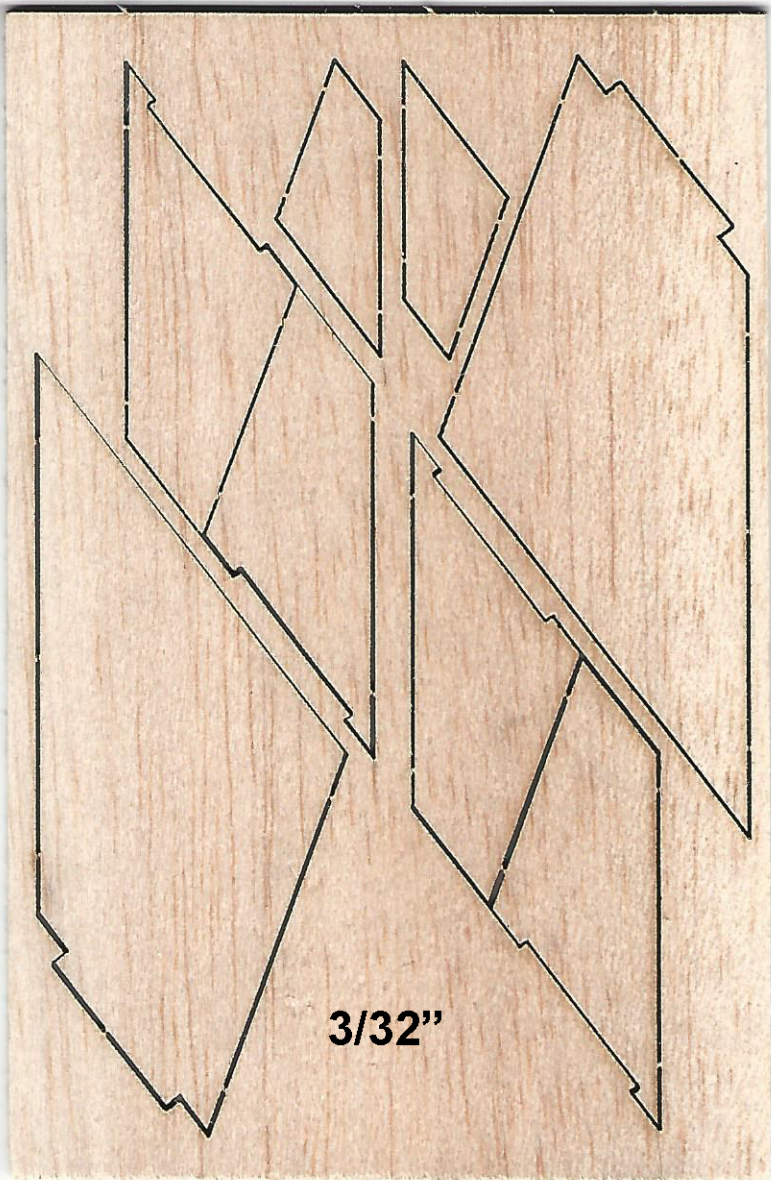
3

4

5

6

Printable-Ru



3/32"



FUSION X25™ FUSION X25™

Printable-Ruler.net



PARTS LIST KIT NO. 3205 - Fusion X-25								
Quantity	Description	Type	Number	Detail1	Detail2	Detail3	Detail4	Comment
1	PAPER BODY TUBE	WBT-20J	30408	2.75" long	0.710" ID	0.736" OD	0.013" wall	White
1	ENGINE HOLDER	EH-2	35021	2.8" long	.100" wide	.025" thick	18/24mm	Thumb Saver
1	CENTERING RING	AR-2050L	30165-2	1" long	.737" ID	.949" OD	0.106" wall	Green
1	ENGINE BLOCK	EB-20A	30224	.708" OD	.65" ID	.25" thick	0.058" wall	Black
1	PAPER BODY TUBE	BT-50?	31785	9" long	0.950" ID	0.976" OD	0.013" wall	White
1	BALSA FIN STOCK	*BFS-30?	65880	4" wide	6" long	3/32" thick		Scan
3	Basswood Strip	N/A	32098	1/4" wide	6" long	3/32" thick	0.09375	
1	LAUNCH LUG	LL-2	38190	5/32" ID	1/8" rod	2" long		Mylar
1	Screw Eye (Large)	SE-1A	38251	1" long				
1	BALSA NOSE CONE	BNC-50K	70262	2.75" long	.976" dia.	.5" shoulder		
1	Shock Cord	SC-1	38367	18" long	1/8" wide			Rubber
1	Parachute	PK-12A	35815	12" dia.	12" x 6 Shro	LDPE plastic	Org/Wht	Preassembled
1	Decal	KD-3205	65968	4" wide	9" long	Blk,Red	Waterslide	Scan
*Laser Cut Fins #065966								



ESTES

Recommended for ages 10 and up with adult supervision for those under 12.

www.estesrockets.com

Recommandé pour enfants de 10 ans et plus. Quant à l'utilisation par des enfants de moins de 12 ans nous demandons la surveillance d'un adulte.

ESTES

FUSION X25™

FLYING MODEL ROCKET KIT

Skill Level 1

- **Simple to Glue and Paint!**
- **Commercial Space Transport!**

FLIES UP TO
1150
FEET
(351 m)

OVER 13 INCHES (33 cm) TALL!

SEE BACK OF PACKAGE FOR DETAILS.

www.estesrockets.com

DO NOT CROSS THE DOTTED LINE. KEEP FOR FUTURE REFERENCE.

ESTES

3205

Skill Level: 1
Length: 13.5 in. (34 cm)
Diameter: 0.98 in. (25 mm)
Weight: 1.25 oz (35.4 g)
Recovery: 12 in. (30.5 cm)
Parachute
Projected Altitude: 1,150 ft. (351 m)

Engines:
A8-3 (First Flight)
B8-4, C6-5

Fusion X25™
ROCKET POCKET CARD

3205



0 47776 03205 7

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Made in Guangdong, China.
Colors of product may vary.

1 MODEL KIT / MODÈLE RÉDUIT

ESTES

Recommended for ages 10 and up with adult supervision for those under 12.

www.estesrockets.com

Recommandé pour enfants de 10 ans et plus. Quant à l'utilisation par des enfants de moins de 12 ans nous demandons la surveillance d'un adulte.

ESTES FLYING MODEL ROCKET ESTES MODELE DE FUSEE VOLANT

Plastic bags can be dangerous. To avoid danger of suffocation, keep this bag away from babies and children.

Les sacs de plastique peuvent être dangereux. Pour éviter le danger de suffocation, ne laissez pas ce sac à la portée des bébés ni des enfants.

Allergy Information: Product may contain latex.

L'Information D'Allergie: Le produit peut contenir le latex.

This model kit requires assembly. Requires white or yellow glue and/or tube-type plastic cement, paint, finishing supplies, engines, igniters, wadding, and launch system - NOT INCLUDED

Cette modèle réduit exige montage. Colle et peinture, moteurs, allumeurs et système de lancement - NON COMPRISES

USE ONLY WITH ESTES PRODUCTS

Caution: Use of this Estes product with any other brand-name rocket product containing any defect or causing any damage may void the Estes warranty.

CET ENSEMBLE DOIT ETRE UTILISE AVEC DES PRODUITS ESTES UNIQUEMENT. Mise en garde: L'utilisation de ce produit Estes avec un produit d'une autre marque entaché d'une défectuosité ou causant des dommages peut annuler la garantie Estes.

Safety Code and Full One Year Warranty Enclosed.

Code de sécurité et garantie comprises.

www.estesrockets.com

ESTES

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Made in Guangdong, China
Fabrique en Guangdong, Chine



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